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The WuXi Group

The National Security Risks Associated With its Government and Military Connections, Data Privacy Issues, and Corporate Reach

The WuXi Group: The National Security Risks Associated with its Government and Military Connections, Data Privacy Issues, and Corporate Reach

Key takeaways:

- The WuXi Group, and in particular its leading firms WuXi Biologics and WuXi AppTec, is a global biotechnology Contract Research Development Manufacturing Organization (CRDMO) behemoth with numerous subsidiaries spread across the globe and significant ties to both the Chinese Communist Party (CCP) and the People's Liberation Army (PLA).
- Ultimate power over the WuXi Group rests in the hands of Li Ge, who has participated intensely in CCP activities for decades. Li has spoken on multiple occasions about the central role of the Party in the WuXi Group's corporate activities as well as the role that WuXi Group plays in China achieving its national security and geostrategic science and technology objectives.
- While the U.S. Congress is correct to take legislative protective action on WuXi AppTec, the firm is merely one appendage of a larger and centrally coordinated global operation. The broader WuXi Group—which includes WuXi Biologics and WuXi AppTec as well as their subsidiaries and a range of related enterprises—poses a threat to U.S. national security that must be addressed systematically rather than firm-by-firm.
- WuXi Biologics has a sprawling network of subsidiaries and investor/shareholder relationships that are worthy of additional Congressional scrutiny. WuXi Biologics actively engages in CCP activities, with approximately 5 percent of employees joining WuXi Biologics' internal CCP organization as of 2023, and WuXi Biologics is one of the active participants in the "Biopharmaceuticals Union of Party Committees" which promotes cooperation between the CCP and companies within the industry.
- WuXi Biologics is now the second largest company in the world for biologics outsourcing, after the CRDMO announced record growth figures in 2021, and WuXi AppTec is one of the world's largest providers of preclinical chemistry services.
- Given the dual-use nature of a wide range of biomedical research and development, it is in the interest of U.S. national security, as well as that of its allies and partners, to seek an approach of intentional domestic manufacturing and 'friend shoring.' This has paid dividends in other areas of decoupling or derisking our science and technology ecosystem from China's and may be appropriate to pursue here.



Figure 1: WuXi Biologics and WuXi AppTec Headquarters Facilities

WuXi Biologics (无锡药明生物技术有限公司 or 药明生物) and WuXi AppTec (无锡药明康德新药开发股份有限公司 or 药明康德), the crown jewels of the WuXi Group (药明系) and headquartered in China, are massive Contract Research, Development and Manufacturing Organizations (CRDMOs) in China's biotechnology industry that participate in the discovery, development, and manufacturing of pharmaceutical products. WuXi Biologics was spun off from WuXi AppTec's biopharmaceutical department in 2011 and tends to focus on large-molecule biopharmaceuticals rather than WuXi AppTec's historical leaning towards small-molecule chemical drugs.¹ In addition to the two major pillars of WuXi Biologics and WuXi AppTec, the WuXi Group also contains a number of other smaller firms in related industries with intertwined ownership and partnered operations.²

The WuXi Group is currently a major target of concern for the U.S. government on the basis of its close ties to both the Chinese Communist Party's (CCP) biotechnology strategy and the People's Liberation Army (PLA). WuXi AppTec in particular has been spotlighted earlier this year as an object of national security interest by the U.S. House Select Committee on the Strategic Competition between the U.S. and CCP as well as the Jamestown Foundation, a prominent national

^{1 &}quot;市值蒸发 300 多亿后, 药明生物 CEO 回应市场四大质疑," 07 December 2023,

https://m.jiemian.com/article/10505491.html, accessed 05 April 2024. "药明生物 VS 药明康德谁更强?" 03 June 2018, https://zhuanlan.zhihu.com/p/37639831, accessed 05 April 2024.

^{2&}quot;无锡药明康德新药开发股份有限公司 2022 年年度报告,"

https://static.wuxiapptec.com/c6/20230321/%E8%8D%AF%E6%98%8E%E5%BA%B7%E5%BE%B7%EF%BC%9A2022%E5%B9%B4%E5%B9%B4%E5%BA%A6%E6%8A%A5%E5%91%8A.PDF, accessed 05 April 2024.

security think-tank.³ Additionally, the recent introduction of the "BIOSECURE Act" in Congress (currently in committee) would include the firms on a list of "Biotechnology Companies of Concern" and would restrict them from receiving U.S. government funding. WuXi Group executives have flatly denied any involvement with the PLA, despite the wealth of evidence to the contrary; the firm is said to derive two-thirds of its profits from the United States, creating a financial incentive to misrepresent its support of the CCP and the Chinese military-industrial complex.⁴ Although WuXi Biologics is a sprawling enterprise in its own right that raises major national security concerns and has a significant U.S. presence, thus far WuXi AppTec has attracted the lion's share of outside attention. To that end, this report aims to provide a more comprehensive picture of the Wuxi Group.

Who Controls the WuXi Group?

This sprawling group of interconnected entities are within the control of WuXi Group founder and CEO Li Ge (李革), a U.S. citizen based in Shanghai, China, who personally works to ensure that they hold complementary rather than conflicting interests and cooperate as necessary with the CCP. In official financial filings, Li makes clear that he will directly coordinate WuXi Biologics and WuXi AppTec with one another as well as the WuXi Group's other subsidiaries through both his personal office as well as his shareholder and proxy voting powers as required to ensure their harmonious operations. Li and his fellow founders have a majority of shares in the WuXi Group, with incredible voting power vested in Li specifically even separate from accounting for others (For example, his roughly 20 percent stake in WuXi Biologics Holdings is arranged in a manner that gives him over 50 percent of the total shares' voting power).

The exact title of the relationship between the two firms has not been neatly defined by the WuXi Group itself, both Chinese- and English-language sources refer to WuXi Biologics as a "subsidiary company under the flag/umbrella" (旗下子公司) of WuXi AppTec.⁷ Both firms have a significant global presence, with WuXi Biologics and WuXi AppTec both expanding their offices to the United States primarily through acquisitions of existing facilities. Although they are legally

³ "Red Genes: Assessing WuXi AppTec's Ties to the Party-Army-State in China," Sunny Cheung, Arran Hope, Peter Mattis, *China Brief*, https://jamestown.org/program/red-genes-assessing-wuxi-apptecs-ties-to-the-party-army-state/, accessed 05 April 2024.

^{4 &}quot;药明康德几大不确定性," *Xueqiu*, 30 November 2023, https://xueqiu.com/4473290236/269058120, accessed 05 April 2024. "藥明生物公告澄清,該公司 CEO 未曾在任何軍方背景機構任職," *Yahoo Stocks*, 28 January 2024, https://tw.stock.yahoo.com/news/%E8%97%A5%E6%98%8E%E7%94%9F%E7%89%A9%E5%85%AC%E5%91%8A%E6%BE%84%E6%B8%85-%E8%A9%B2%E5%85%AC%E5%8F%B8ceo%E6%9C%AA%E6%9B%BE%E5%9C%A8%E4%BB%BB%E4%BD%95%E8%BB%8D%E6%96%B9%E8%83%8C%E6%99%AF%E6%A9%9F%E6%A7%8B%E4%BB%BB%E8%81%B7-035516954.html, accessed 05 April 2024.

⁵ "Shareholders of WuXi PharmaTech (Cayman) Inc. Re: Notice of Extraordinary General Meeting of Shareholders," 20 October 2015,

 $https://www.sec.gov/Archives/edgar/data/1403132/000119312515347709/d86213dex99a1.htm,\ accessed\ 05\ April\ 2024.\ ``Li\ Ge,\ Forbes\ Profile,\ 04/21/2024\ https://www.forbes.com/profile/li-ge/?sh=5b53791f776b.$

^{6&}quot;无锡药明康德新药开发股份有限公司 2022 年年度报告,"

https://static.wuxiapptec.com/c6/20230321/%E8%8D%AF%E6%98%8E%E5%BA%B7%E5%BE%B7%EF%BC%9A2022%E5%B9%B4%E5%B9%B4%E5%BA%A6%E6%8A%A5%E5%91%8A.PDF, accessed 05 April 2024. 7 "学霸夫妻打造千亿生物科技帝国," https://36kr.com/p/1961416694904963, accessed 05 April 2024. See also

[&]quot;WuXi Biologics boosts new projects target," *Bamboo Works*, 11 January 2024, https://thebambooworks.com/fast-news-wuxi-biologics-boosts-new-projects-target/, accessed 05 April 2024.

distinct companies, WuXi AppTec and WuXi Biologics share key personnel and interlocking investments and ownership, most notably in the form of Li Ge, who is the founding CEO of WuXi AppTec and serves as chairman and non-executive director of the WuXi Biologics' controlling Cayman Islands entity, and also previously via his co-founder and late wife Zhao Ning (赵宁), who served simultaneously as the director and senior vice president of WuXi AppTec as well as a non-executive director of WuXi Biologics. The two major entities of the WuXi Group share a range of common technological platforms, most notably the "WuXiLiAb" naïve human antibody library (developed by WuXi AppTec and later transferred to WuXi Biologics), as well as making joint investments and launching joint ventures together (most notably WuXi XDC, an open-access biologics technology platform) when directed. 9

The WuXi Group's Corporate History¹⁰

The WuXi Group's founder, Li Ge, graduated from Peking University in 1989 and later received a PhD in organic chemistry from Columbia University in the United States. Seeking an opportunity to commercialize the method of 'template molecule' development for pharmaceutical R&D that he had innovated in his PhD thesis, ¹¹ Li returned to China and created the WuXi Group along with his (now recently deceased) wife Zhao Ning. Li and Zhao met when they were both graduate students in Beijing, and she had joined him in pursuing graduate studies at Columbia. Li and Zhao appeared to operate as a cohesive leadership unit until her untimely death from cancer at the age of 57. In 2010, Li was selected into the PRC's "Thousand Talents Plan," marking him as someone whose professional success in STEM in China has been intimately intertwined with preferential treatment as a reliable steward of the CCP's interests, despite his status as a U.S. citizen. ¹²

Li founded WuXi PharmaTech (also referred to as 药明康德 in Chinese), the initial firm in the WuXi Group, in the year 2000 with an initial focus on the discovery, development, and commercialization of new medicines and healthcare products. In the company's early years, it expanded its capabilities into an increasing range of related spheres: synthetic chemistry services in 2001, manufacturing process development services in 2003, manufacturing for research and development in 2004, bio-analytical services in 2005, and toxicology and formulation services in 2007, the same year that the firm was listed on the New York Stock Exchange (it was later delisted in 2015). In 2008 the firm acquired the Minnesota-based firm AppTec Laboratory Services (after which the company's English name was renamed WuXi AppTec) in an effort to combine WuXi PharmaTech's chemistry services with AppTec's biologics testing and manufacturing capabilities, followed by acquisitions of Medkey in 2011 and XenoBiotic Laboratories in 2014.

https://vip.stock.finance.sina.com.cn/corp/view/vCI_CorpManagerInfo.php?stockid=603259&Pcode=30321001&Name=%C0%EE%B8%EF, accessed 05 April 2024.

https://www.wuxibiologics.com/technologies/wuxiliab-phage-display/, accessed 05 April 2024.

^{8&}quot;药明康德,"

⁹ A naïve human antibody library is a collection of antibodies that can be used to treat infectious diseases. "药明康德," https://www.wuxibiology.cn/cn, accessed 05 April 2024; "WuXiLiAb Human Naïve Library,"

^{10 &}quot;公司历史," https://www.wuxiapptec.com/about/history, accessed 05 April 2024.

¹¹"学霸夫妻打造千亿生物科技帝国," https://36kr.com/p/1961416694904963, accessed 05 April 2024.

^{12 &}quot;控股人再套现 药明康德成为'股东提款机'," *Epoch Times*, 04 December 2022, https://www.epochtimes.com/gb/22/12/4/n13878140.htm, accessed 05 April 2024.

Over the past decade, the WuXi Group has become increasingly involved in sensitive genomics and genetic data analysis. One subsidiary known as WuXi NextCode (药明明码), for example, was brought into the WuXi Group fold in 2015 via the Group's acquisition of the Icelandic- and U.S.-based company NextCode Health, which then saw its genomics capabilities combined with the China-based WuXi Genome Center. Concerns raised by U.S. Senators regarding the firm's access to sensitive genomics data and China's updated Human Genetic Resource (HGR) Regulations eventually forced its ties to China to be severed amid restructuring into Genuity Science in 2020, a move taken under direct U.S. government pressure. ¹³ The acquisition of CRELUX in 2016 enhanced the WuXi Group's structure-based drug discovery capabilities, followed by the acquisitions of HD Biosciences and Acquired ResearchPoint Global in 2017, the purchase of Pharmaspace in 2019, and the acquisition of Bristol Myers Squibb's (coincidentally, the former employer of Zhao Ning prior to the WuXi Group's founding) Swiss manufacturing facilities in 2021. The firm's most recent acquisition is OXGENE, obtained in a bid to further strengthen the WuXi Group's cell and gene therapy service offerings for global customers.

Within the WuXi Group, WuXi Biologics in particular has a sprawling network of subsidiaries and investor/shareholder relationships. As shown in more detail in Figure 2 below, these include a range of investment management companies, specialized biomedical subsidiaries, regional subsidiaries, and joint ventures. As these individual structural relationships have continuously shifted over time, the best way to understand the Group is through its overall dynamics, including the tremendous structural power invested in Li as well as his fellow founders. As Li has laid out explicitly in his corporate filings, all of the Group's subordinate corporate relationships and linkages are ultimately downstream of top-level strategic objectives set by Li and the leadership team and can be modified or harmonized as necessary towards those ends. 14

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¹³ "WuXi NextCode Restructures, Rebrands as Genuity Science," *GenomeWeb*, 23 June 2020, https://www.genomeweb.com/business-news/wuxi-nextcode-restructures-rebrands-genuity-science, accessed 05 April 2024.

^{14 &}quot;无锡药明康德新药开发股份有限公司 2022 年年度报告,"

https://static.wuxiapptec.com/c6/20230321/%E8%8D%AF%E6%98%8E%E5%BA%B7%E5%BE%B7%EF%BC%9A2022%E5%B9%B4%E5%B9%B4%E5%BA%A6%E6%8A%A5%E5%91%8A.PDF, accessed 05 April 2024.

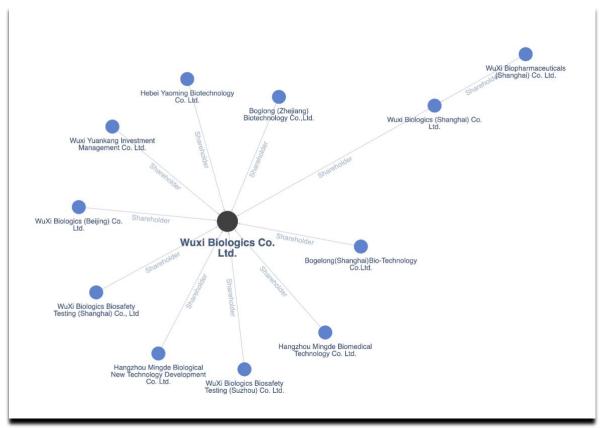


Figure 2: Entity Graph of WuXi Biologics Co. Ltd. 15

The WuXi Group's Data Privacy Concerns

Any PRC company that accumulates personal data from its users is governed by the PRC's all-encompassing national security laws, particularly the National Intelligence Law (中华人民共和国国家情报法). PRC national security laws explicitly require that firms cooperate with the CCP's military, intelligence, and defense mobilization organs, stealthily if so requested, including by turning over their users' personal data — a requirement that extends not only to data on Chinese citizens but also to collected global user data. In late March 2024, media reports claimed that the WuXi Group has been accused in closed-door Congressional hearings of directly and knowingly transferring a U.S. client's intellectual property to the Chinese authorities without the client's consent. Additional details are not known, but given the focus of the WuXi Group companies, that intellectual property could easily include the transfer of U.S. persons' genetic data.

The WuXi Group's core business activities are deeply interlinked with the collection of sensitive genetic data. In 2016, WuXi AppTec began operating a National Development and Reform Commission (国家发展和改革委员会 or NDRC)-designated "Genetic Testing Technology Application Demonstration Center" (基因检测应用示范中心). This places the WuXi Group in a

¹⁵ Graph constructed using proprietary Chinese corporate records data from Exovera Inc.

¹⁶ "Exclusive-China's WuXi AppTec shared US client's data with Beijing, US intelligence officials told senators," *Reuters*, 28 March 2024, https://www.yahoo.com/news/exclusive-chinas-wuxi-apptec-shared-050404269.html, accessed 05 April 2024.

cohort alongside entities that have been sanctioned for human rights abuses such as the Xinjiang Production and Construction Corps. 17 Other WuXi Group initiatives, such as WuXi Logistics' WuXiLiAb platform, also appear to be collecting human genome data that the PRC could easily choose to use in military initiatives if desired. As discussed in greater detail below, the WuXi Group is known to engage with major PRC planning initiatives such as the Military-Civil Fusion Development Strategy that have national security implications.

These concerns also extend to firms within the WuXi Group's broader sphere of influence. WuXi Biologics and WuXi AppTec have jointly made Series B, C, and D investments in the Chinese biotech firm CANbridge, for example, which in turn has linkages in its gene therapy portfolio to U.S.-based pharmaceutical companies and universities. Combined with the recent Congressional accusations of WuXi Group's concrete data exfiltration to the PRC, these connections raise the risk of sensitive data on U.S. persons being exfiltrated to China in ways that may not be visible to the U.S.-based partners of WuXi Group-linked firms. In summary, the unique risks posed to the privacy and safety of U.S. persons by the intersection of the National Intelligence Law and the WuXi Group's range of sensitive data sets warrants further substantial scrutiny of the firm's operations and connections.

Concerns about the WuXi Group's mishandling of genetic data from Western nationals are exacerbated by the spree of acquisitions that the Group has engaged in over the past decade, rapidly gaining access to facilities and data sets around the world via these expansion efforts. In 2018, for example, the previously mentioned Group subsidiary WuXi NextCode acquired an Irish firm known as Genomics Medicine Ireland (GMI) that had previously been accused of collecting hundreds of thousands of Irish DNA samples using unethical donation and consent practices, in part spurring the regulatory pressure from the United States that resulted in NextCode's restructuring as Genuity.¹⁸

The actions of the WuXi Group in viewing and managing even domestic Chinese genomics data during this period raise additional privacy concerns. In 2016, the Ministry of Science and Technology (科学技术部 or MOST) investigated WuXi AppTec for violating the PRC's HGR Regulations, finding that the company illegally exported 5,165 human serum samples by falsely labeling them as canine plasma. ¹⁹ Despite the WuXi Group's recent public denials that they are researching human genomics, there is a documented track record of deliberate obfuscation on this issue.

The WuXi Group's other collaborations are also a source of data privacy concerns. In 2016, the WuXi Group joined with Huawei to develop a "Genome Cloud" (明码云) platform designed to

^{17 &}quot;发改委基因检测应用示范中心 27 家名单揭晓," Labtub, 2016,

http://www.labtub.com/index.php/index/newsview/cat_id/4/id/195, accessed 05 April 2024. Detailed in "Red Genes: Assessing WuXi AppTec's Ties to the Party-Army-State in China," Sunny Cheung, Arran Hope, Peter Mattis, *China Brief*, https://jamestown.org/program/red-genes-assessing-wuxi-apptecs-ties-to-the-party-army-state/, accessed 05 April 2024.

¹⁸ "Future of Genuity's Irish DNA database is worryingly uncertain," *Irish Times*, 07 September 2023, https://www.irishtimes.com/technology/2023/09/07/future-of-genuitys-irish-dna-database-is-worryingly-uncertain/, accessed 05 April 2024.

^{19 &}quot;行政处罚决定书 国科罚〔2016〕1号," *Ministry of Science and Technology*, 21 October 2016, https://www.most.gov.cn/xxgk/xinxifenlei/fdzdgknr/xzcf/202302/t20230228_184775.html, accessed 05 April 2024.

contain large-scale population genomics information, data which could then discreetly be provided to Chinese government entities under PRC national security laws. ²⁰ These concerns are compounded by the WuXi Group's global reach. This includes the group's investments through WuXi Healthcare Ventures (listed in detail below) as well as WuXi Biologics and WuXi AppTec's investments across Europe and North America. It also includes the overlap of its core business activities with other PRC national strategies, such as its participation in the Belt and Road Initiative (丝绸之路经济带和 21 世纪海上丝绸之路 or BRI). ²¹

The WuXi Group's Government-Supported Growth

The WuXi Group is an important component piece within the PRC's larger industrial strategy for biotechnology, a fact that is reflected in both its alignment with stated CCP objectives and in its uncommonly rapid growth into what Chinese media has termed "the Huawei of biotechnology."²² Only a decade onward from the Group's founding in 2000 in Jiangsu Province, WuXi AppTec had already been listed on the New York Stock Exchange. The Group receives heavy support from the Wuxi municipal government, including tax incentives and preferential land use rights.²³

Biotechnology is a critical research and investment area for the PRC. Major speeches by Xi Jinping put biotechnology alongside artificial intelligence in terms of the field's utility for China's national security as well as its economic growth potential. Biotechnology as a field has appeared in major PRC planning documents dating back to 2006's National Medium-and Long-Term Science and Technology Development Plan (国家中长期科学和技术发展规划纲要). Local Special Economic Zones (SEZs) in major cities such as Beijing and Shenzhen also directly incentivize the indigenous development of the PRC biotechnology industry, including frequent integration with top-level strategic development directives from the CCP. Biotechnology industry.

Li Ge, the founder and head of the WuXi Group, has also been personally brought into the fold of the PRC's science and technology promotion apparatus, most visibly through his aforementioned

https://news.bioon.com/article/6683285.html, accessed 05 April 2024.

²⁰ "争雄基因云,华大、阿里云、药明康德、华为都来玩儿," *MedValley*, 25 May 2016,

²¹ "匯豐:高度重視"一帶一路"所帶來的市場機遇," Economic Information Daily, 02 August 2018,

http://big5.xinhuanet.com/gate/big5/jjckb.xinhuanet.com/2018-08/02/c 137363190.htm, accessed 05 April 2024.

²² "学霸夫妻打造千亿生物科技帝国," https://36kr.com/p/1961416694904963, accessed 05 April 2024.

²³ "药明康德是怎样炼成的?," 08 March 2021,

https://mp.weixin.qq.com/s?__biz=MzUzMzk3MDU5Mw==&mid=2247501494&idx=1&sn=6b648d4d03fc12ffc6cd5d96e68a618b&chksm=fa996d78cdeee46e679204fac1cad57fe56cbc2c8addeae809191dcdab60203e0ed123eda2c2&scene=27, accessed 05 April 2024.

²⁴ "习近平在中共中央政治局第三十三次集体学习时强调,加强国家生物安全风险防控和治理体系建设,提高国家生物安全治理能力," *Xinhua*, 29 September 2021,

https://www.moj.gov.cn/pub/sfbgw/gwxw/ttxw/202109/t20210929_438664.html, accessed 05 April 2024.

²⁵ "深圳市第七届人民代表大会常务委员会公告(第八十二号)," Shenzhen Municipal People's Congress, 06 January 2023, http://www.szrd.gov.cn/rdlv/chwgg/content/post_930935.html, accessed 05 April 2024; "《北京经济技术开发区关于促进医药健康产业高质量发展的若干措施》等三个政策措施," Beijing Economic Technological Development Area, 23 February 2023,

https://www.ncsti.gov.cn/zcfg/zcwj/202303/t20230301_109733.html, accessed 05 April 2024.

selection into the PRC's "Thousand Talents Plan" in 2010.²⁶ At the same time, WuXi Group companies have increasingly been entrusted by the government with major projects, resulting in WuXi AppTec being selected by the Ministry of Science and Technology in 2007 to build and operate the State Key Laboratory of Drug Lead Compound Research (药物先导化合物研究国家重点实验室).²⁷ The laboratory was among the first batch of corporate State Key Laboratories in China, and it focuses on cutting-edge lead compounds research.

The WuXi Group's Deep Interlinkages with the Chinese Communist Party

Even in its early years, The WuXi Group's companies established CCP organizations within their corporate structures. Group head Li Ge has personally attended internal CCP activities of Group companies. He has stated his belief that Party branches and members should provide significant support for the Group's Party-building efforts, reflected in WuXi Group companies allocating specific space for CCP activities in their company headquarters. ²⁸ Ge has actively pledged to work with the CCP to reduce China's strategic reliance on foreign technologies in the field of biomedicine. ²⁹ It is accurate to describe the WuXi Group as a state-directed entity rather than a true free-market enterprise, as its top-level direction is intentionally aligned with the demands of the Chinese Communist Party rather than shareholder interests even if its granular day-to-day management is responsive to market conditions.

WuXi Biologics actively engages in CCP activities, with approximately 5 percent of employees joining WuXi Biologics' internal CCP organization as of 2023, and WuXi Biologics is one of the active participants in the "Biopharmaceuticals Union of Party Committees" (生物医药产业联盟党委) which promotes cooperation between the CCP and companies within the industry. WuXi AppTec, for its part, is known to have at least 20 Party branches, and by 2013 over 1,000 of the company's 7,000 employees were CCP members. According to WuXi AppTec's CCP Group Vice Secretary Lin Wenbun (林文斌), the company's culture promotes the notion that "Party members are the technical backbone" (党员就是技术骨干) of the organization.

²⁶ "控股人再套现 药明康德成为'股东提款机'," *Epoch Times*, 04 December 2022,

https://www.epochtimes.com/gb/22/12/4/n13878140.htm, accessed 05 April 2024.

²⁷ "药物先导化合物研究国家重点实验室(上海药明康德新药开发有限公司)," 05 July 2012,

http://www.cipnet.cn/bs_info/Resource/Organ/97bb7ba8-de43-4495-a4a0-66cf068e76ac, accessed 05 April 2024.

^{28 &}quot;甘当创新发展"催化剂"——记药明康德众党员," Liberation Daily, 25 May 2013,

https://news.12371.cn/2013/05/25/ARTI1369462494473961.shtml, accessed 05 April 2024.

²⁹ "药明生物科技园二期签约 杜小刚赵建军会见陈智胜一行," WuXi Daily, 03 June 2022,

https:/wxrb.com/doc/2022/06/03/176280.shtml, accessed 05 April 2024.

^{30 &}quot;生物医药子产业联盟党总支揭牌仪式暨生物医药产业联盟党委首期"联盟日"活动在我区举办," 02 August 2023, https://www.cmc.gov.cn/xwzx/yw/art/2023/art_7dff0137d5b14bec9335b74aeecf93c7.html, accessed 05 April 2024

³¹ "甘当创新发展"催化剂"——记药明康德众党员," Liberation Daily, 25 May 2013,

https://news.12371.cn/2013/05/25/ARTI1369462494473961.shtml, accessed 05 April 2024.



Figures 3-5: WuXi AppTec CCP Party Group's 2020 Annual Work Summary and Commendation Meeting³²

WuXi Group companies have also received formal visits from a variety of external Party officials. In 2022, Wuxi City Party Secretary Du Xiaogang (杜小刚) held a virtual meeting with WuXi Group head Li Ge and other members of his leadership team on the Group's collaboration with the local CCP, during which Li stated that the company's successful development since its early days

^{32 &}quot;药明康德第四党总支召开年度工作总结表彰会议," *Party Member Political Life Workshop*, 02 February 2021, https://mp.weixin.qq.com/s?src=11×tamp=1638326845&ver=3469&signature=G-zrJiswa3hB*ukYyu8o4uG0i-lQdjv4k8UnxUoMEWhuvn11l44IWBdVTXpph4miJ*tkBA9AOPXPNvp-Os72qrz8MGdBIMhFEyOOxBXmeAudbke*2pRLOexhPmEhmBPl&new=1, accessed via Web Archive.

would not have been possible without the local government's support.³³ In another 2022 meeting, Party Secretary and Tianjin Economic Development Area Director You Tiangcheng (尤天成) carried out an inspection of the Party-building work at WuXi AppTec's Tianjin office and commended the WuXi Group's integration of daily operations with Party-building activities. Secretary You explicitly highlighted the importance of cultivating Party members as key personnel and vice versa, arguing that the absorption of CCP members into WuXi Group companies' leadership and core groups enables the Party to serve as a "red engine" (红色引擎) for the Group's growth.³⁴



Figure 6: Party Secretary You Tiancheng Meeting with the WuXi Group³⁵

In 2023, these meetings were followed by the signing of a "Party Building Joint Construction Agreement" (党建共建协议书) involving WuXi Biologics, WuXi AppTec, and a number of other biotechnology firms, aimed at formalizing and deepening Party-building within the region's biotechnology industry. According to written records of the event, Party officials spoke of injecting "red genes" (红色基因) into the local biotechnology industry, a goal in keeping with the

^{33 &}quot;杜小刚与李革张朝晖视频交流: 推动成为更加紧密发展共同体产业'合伙人'," *The Paper*, 31 August 2022, https://m.thepaper.cn/baijiahao_19706969, accessed 05 April 2024.

^{34 &}quot;天津经开区领导深入企业调研指导非公企业党建工作," *Tianjin Economic-technological Development Area*, 18 May 2022, https://www.teda.gov.cn/contents/4886/178396.html, accessed 05 April 2024. Detailed in "Red Genes: Assessing WuXi AppTec's Ties to the Party-Army-State in China," Sunny Cheung, Arran Hope, Peter Mattis, *China Brief*, https://jamestown.org/program/red-genes-assessing-wuxi-apptecs-ties-to-the-party-army-state/, accessed 05 April 2024.

^{35 &}quot;天津经开区领导深入企业调研指导非公企业党建工作," *Tianjin Economic-technological Development Area*, 18 May 2022, https://www.teda.gov.cn/contents/4886/178396.html, accessed 05 April 2024.

aforementioned creation of an industry-centered Party-building alliance and its concomitant cooperation mechanisms aimed at aligning the industry's development with the Party's goals.³⁶



Figure 7: Party Building Joint Construction Agreement Meeting Featuring Multiple WuXi Group Companies, including WuXi Biologics (2023)

The WuXi Group's Ties to the People's Liberation Army and China's Military-Industrial Complex

The WuXi Group has a range of ties to both the PLA and initiatives of the wider PRC military-industrial complex that either have a national security focus or that incorporate both civilian and military interests. There are numerous interactions at the level of leading personnel, such as WuXi Biologics CEO Chen Zhisheng (陈智胜) delivering a joint lecture at Tsinghua University together with Major General Chen Wei (陈薇) of the PLA's Academy of Military Medical Sciences (解放军军事科学院军事医学研究院 or PLA AMMS) in 2019.³⁷ WuXi AppTec has presented awards to researchers from PLA AMMS for their research contributions, and in recent years its management committee has included representatives from PLA AMMS, the Fourth Military Medical University (第四军医大学), which is known to carry out military biological warfare research, and the Chinese Academy of Sciences, which is heavily involved in dual-use science and technology research. WuXi Group scientists have also conducted joint academically published

https://baike.baidu.com/item/%E8%8D%AF%E6%98%8E%E5%BA%B7%E5%BE%B7%E7%94%9F%E5%91%BD%E5%8C%96%E5%AD%A6%E7%A0%94%E7%A9%B6%E5%A5%96/317679, accessed 05 April 2024. Detailed in "Red Genes: Assessing WuXi AppTec's Ties to the Party-Army-State in China," Sunny Cheung, Arran Hope, Peter Mattis, *China Brief*, https://jamestown.org/program/red-genes-assessing-wuxi-apptecs-ties-to-the-party-army-state/, accessed 05 April 2024.

³⁶ "以党建"红色基因"助力生物医药产业创新发展," Wuxi Municipal Government, 18 April 2023, https://jggw.wuxi.gov.cn/doc/2023/04/18/3933004.shtml, accessed 05 April 2024.

³⁷ "陈薇、陈智胜为本科新生讲授'生物医药与健康产业',勉励同学们'用全世界最好的技术发出中国声音'," *Tsinghua University*, 26 December 2018, http://m.migelab.com/api.php?s=/Art/index/aid/7667, accessed 05 April 2024.

^{38&}quot;药明康德生命化学研究奖,"2007,

scientific research with the PLA's 2nd Military Medical University and No. 401 Hospital.³⁹ This range of military-focused personnel serving on WuXi Group management committees suggests at least some degree of civil-military fusion in the company's research and development activities.⁴⁰ Joint lectures and awards naturally suggest that other forms of cooperation such as joint projects may be occurring as well.

WuXi Group executives have also been brought into broader government initiatives featuring military personnel and likely dual-use objectives. Through the "Major New Drug Creation Initiative" (新药重大创制"科技重大专项) within the Thirteenth Five-Year Plan, WuXi AppTec Deputy CEO Chen Shuhui (陈曙辉) was appointed in 2016 to the Initiative's core committee where he served with representatives of the Fourth Military Medical University, the Military Medical Science Academy's Institute of Pharmacology and Toxicology (军事医学科学院毒物药物研究所), and the Chinese Academy of Sciences. The committee's aim is to grow China's pharmaceutical research and development ecosystem across all stages of development, and the representatives chosen for the committee strongly indicates that it oversees dual-use range research and development activities.⁴¹

The WuXi Group's funding streams are also intertwined China's broader Military-Civil Fusion development strategy. They have received investment from the "Aviation Industry Corporation of China Military-Civil Fusion Selected Hybrid Securities Investment Fund" (中航军民融合精选混合型证券投资基金), which was explicitly set up to invest in enterprises engaged in military production. Additional PLA-linked investment funds that have funded WuXi Group companies include the Changxin National Defense Fund (长信国防军工量化灵活配置混合型证券投资基金) and the CSI Military Industry Securities Investment Fund (申万菱信中证军工指数分级证券投资基金) among a range of others. While the WuXi Group's precise involvement in military production activities is not known, this range of military-focused investment underscores the firm's importance to the PLA's broader ambitions to integrate military capabilities with civilian biotechnology advancements.

https://new.qq.com/rain/a/20240129A0127Y00, accessed 05 April 2024.

³⁹ "Investigation and resolution of incurred sample reanalysis failures in LC-MS/MS bioanalysis," *Chinese Journal of Pharmaceutical Analysis*, 2016,

https://cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2016&filename=YWFX201604001&uniplatform=OVERSEA&v=vhCq30nSIS4f2l2ciJt9Fq4_-S1a5cytbyA2q72ppZHSR4psOJDty697eDnE_yf3, accessed 05 April 2024. "The determination of aldehyde disinfectants residual on the surface of endoscopes," *Chinese Journal of Disinfection*, 2016,

https://cnki.net/KCMS/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2016&filename=ZGXD201602007&uniplatform=OVERSEA&v=ylXm-V-ECuK6rUxl-vertical control of the control of

Hu6VQZ2W4MXUmu2n5mKYL4qOY4IJdsjzTpjfC5Q3UKEbpsn, accessed 05 April 2024.

⁴⁰ "药明康德," https://www.wuxibiology.cn/cn, accessed 05 April 2024.

⁴¹ ""重大新药创制"科技重大专项"十三五"总体组名单公布," *Ministry of Health*, 25 November 2016, http://www.phirda.com/artilce_14345.html?cId=1, accessed 05 April 2024.

^{42 &}quot;不止 1 支军工主题基金重仓过药明康德," QQ News, 29 January 2024,

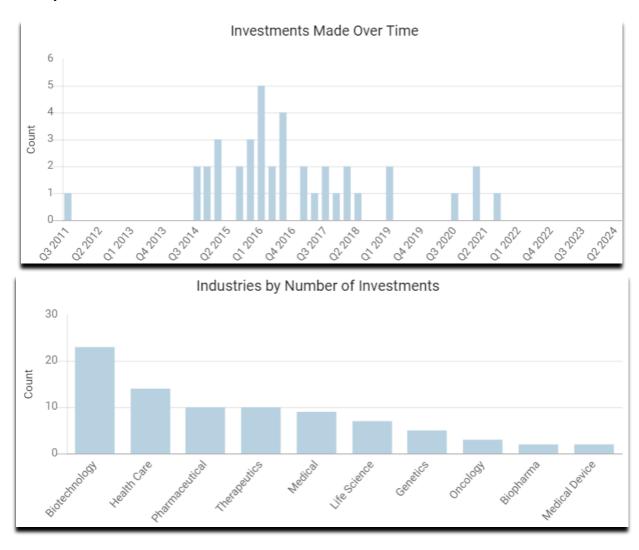
^{43 &}quot;无锡药明康德新药开发股份有限公司:首次公开发行股票发行公告," 23 April 2018,

 $https://web.archive.org/web/20240214134021/https://www.sse.com.cn/disclosure/listedinfo/announcement/c/2018-04-23/603259_20180423_1.pdf,\\$

^{44 &}quot;中航军民融合精选 C 基金最新净值涨幅达 1.93%," *Financial Fund Report*, 03 September 2019, https://m.jrj.com.cn/madapter/fund/2019/09/03065228079102.shtml, accessed 05 April 2024.

WuXi Group Investments Through WuXi Healthcare Ventures

WuXi Healthcare Ventures, the investing arm of the WuXi Group, has made 39 investments in total according to corporate database tracking data. This wide range of ventures demonstrates the sheer reach of the WuXi Group, extending far outside of China and across the global biosciences industry to even well-known American firms such as 23AndMe.



⁴⁵ "WuXi Healthcare Ventures," https://www.crunchbase.com/organization/wuxi-healthcare-ventures/recent_investments, accessed 05 April 2024.

Figures 8 and 9: Investments by WuXi Healthcare Ventures by Year and Industry

A full list of these investments is as follows:

Investment Year	Company Name	Funding Round	Money Raised
2011	Hua Medicine	Series A	\$50 Million
2014	IMPACT Therapeutics	Series A	Unknown
2014	Avelas Biosciences	Series B	\$7.4 Million
2014	Syros Pharmaceuticals	Series B	\$53 Million
2014	Adagene	Series A	\$8 Million
2015	Vivace Therapeutics	Series A	\$15 Million
2015	UNITY Biotechnology	Series A	\$2.3 Million
2015	Hua Medicine	Series B	\$25 Million
2015	Ivenix	Venture Round	\$42 Million
2015	Tunitas Therapeutics	Series A	\$10 Million
2015	23andMe	Series E	\$115 Million
2015	Lumo Bodytech	Series B	\$10 Million
2015	AltheaDx	Series C	\$30 Million
2016	Refuge Biotechnologies	Series A	\$8.9 Million
2016	Syros Pharmaceuticals	Series C	\$40 Million
2016	Twist Bioscience	Series D	\$61 Million
2016	Forerunner Medical	Series A	60 Million RMB
2016	Adagene	Series B	\$28 Million
2016	Hua Medicine	Series C	\$50 Million
2016	IDEAYA Biosciences	Series A	\$46 Million
2016	CStone Pharmaceuticals	Series A	\$150 Million
2016	Avelas Biosciences	Series C	\$20 Million
2016	Nutrinia	Series D	\$30 Million
2016	TenNor Therapeutics	Series B	\$25 Million
2017	Forerunner Medical	Series B	Unknown
2017	Ivenix	Venture Round	\$50 Million
2017	Vivace Therapeutics	Series B	\$25 Million
2017	LifeMine Therapeutics	Series A	\$70 Million
2017	XW Laboratories	Series B	\$17.5 Million
2017	Medeor Therapeutics	Series B	\$57 Million
2018	IDEAYA Biosciences	Series B	\$94 Million
2018	UNITY Biotechnology	Series C	\$55 Million
2018	Refuge Biotechnologies	Series B	\$25 Million
2019	Antengene Corporation	Series B	\$120 Million
2019	Halda Therapeutics	Series A	\$25 Million
2020	XW Laboratories	Series C	\$40 Million
2021	LifeMine Therapeutics	Series B	\$50 Million
2021	Zenas BioPharma	Series A	Unknown
2021	Adlai Nortye	Series D	\$100 Million

Conclusions and Recommendations

As documented in this report, the WuXi Group is controlled by Li Ge, and Li has in turn spoken with great clarity that his aim is to help the PRC and the Chinese Communist Party achieve their geostrategic objectives in the often dual-use field of biotechnology. Li and the WuXi Group have not shied away from partnerships with numerous PLA organizations, including those conducting biological warfare research, nor from taking strategic direction from the Chinese Communist Party apparatus. The WuXi Group has not made any great effort to hide these connections, even as they conduct an increasing share of their business in the United States. To external observers, it appears that the WuXi Group trusts that their sheer size and interconnectedness in America's biotechnology supply chain—and the reactive and piecemeal nature of American export and investment enforcement—will allow them to continue to act in this manner.

The relationships, orientation, and behavior of WuXi Group present significant problems for U.S. officials. While many of the complexities involved here are best left to U.S. policymakers, one avenue to explore in a broader policy package would be a forced divestment in the name of U.S. national security interests. Although WuXi is well connected, it is far from indispensable to the U.S. pharmaceutical supply chain. A divestment approach would not erase these capabilities, but rather see them sold off to friendlier owners. Even without divestment, the WuXi Group's capabilities are ultimately not unique.

A number of firms in the United States and in U.S. ally and partner nations offer similar capabilities. Given the dual-use nature of biomedical research and development, the approach of pursuing domestic manufacturing and intentional 'friend shoring' has paid dividends in other areas of decoupling or derisking our science and technology ecosystem from China's and may be appropriate to pursue here. WuXi AppTec and WuXi Biologics's recent stock market woes in response to looming regulatory action are also a timely reminder that the WuXi Group needs U.S. market access to thrive and their global activities are vulnerable to disruption by the United States. Such disruption would be entirely justified and would serve the American strategic interest.

Appendix A: WuXi Biologics' Leadership Team

Although WuXi AppTec's leadership team has been explored in depth in other reporting, WuXi Biologics' management is less well known. Some of these executives also hold titles in other WuXi ventures, further demonstrating the interconnected nature of the WuXi Group. CEO Chris Chen is also the chairman of the affiliated WuXi Vaccines and the WuXi XDC joint venture with WuXi AppTec, while Honorary President and Senior Advisor Weichang Zhou moved from WuXi AppTec to WuXi Biologics. These patterns of personnel movement can also be observed at lower levels of the company.

Title(s)	English Name	Chinese Name	Photo
Chief Executive Officer of WuXi Biologics, Chairman of WuXi Vaccines, Chairman of WuXi	Chris Chen	陈智胜	
Honorary President, Senior Advisor to CEO	Weichang Zhou	周伟昌	
Chief Financial Officer, Executive Vice President	Ming Tu	屠鸣	

Chief Scientific Officer, President of Global Biologics Research	Jijie Gu	顾继杰	
Chief Technology Officer, Executive Vice President	Sherry Gu		
Chief Manufacturing Officer, Executive Vice President	Keqiang (Peter) Shen	沈克强	

Senior Vice President, Head of Global Quality Department	Ing Hou Loh	罗仁豪	
Chief Operation Officer, Senior Vice President	Lihua Yu	俞丽华	
Chief Digital Officer, Senior Vice President Head of Global Digital Technologies	Kai Shen	沈愷	

Chief Compliance Officer, Senior Vice President Head of Global Compliance and Risk Management	He (Daniel) Wang	王鹤	
Senior Vice President, Head of Global Engineering	Juergen Hinderer		
Senior Vice President, Head of US Operations and Key Account Executive Advisor	William (Bill) Atchison		

Senior Vice President, Head of Investor Relations	Lina Fan	范丽娜	
President, Head of Global BD and Alliance Management	Angus Turner		
Vice President, Head of Global Human Resources	Li (Lily) Xiong	熊丽	
Vice President, Head of Legal Department	Cong (Connie) Ding	丁丛	

Vice	Yun (Jenny) Hu	胡芸	
President,	-		
Global Supply			
Chain			
Management			a la

Appendix B: WuXi Group Global Facilities Addresses and Contact Information

The following is a full listing of WuXi Biologics' facilities around the world, sorted by continent and country:

Facility Name	Facility Purpose	Facility Location
WuXi Biologics	Biologics discovery, development, and clinical	Waigaoqiao Free
Shanghai MFG3	manufacturing services; 200,000 sq. ft. clinical	Trade Zone
	drug substance manufacturing facility	
WuXi Biologics	1.6 million sq. ft. Integrated Biologics CRDMO	Fengxian District
Shanghai CRDMO	center; biologics discovery, development, and	
	clinical GMP manufacturing services	
WuXi Biologics	8,000 sq. m. Biosafety Testing Center carrying out	Lingang Special
Biosafety Testing	cell bank characterization, unprocessed bulk	Area
Center	harvest, virus harvest, raw materials of animal	
	origin release testing, and viral clearance studies	
WuXi Biologics	Multiple drug substance and drug product	Mashan
Wuxi	manufacturing facilities (MFG1, MFG2, MFG4,	
	MFG5, DP1, DP2, DP4, DP5) with a total facility	
	footprint of 160,000 sq. m, including early and	
	late-stage process development and clinical &	
	commercial-scale drug substance and drug	
	product GMP manufacturing	
WuXi XDC	6,000 sq. m. site dedicated to the development and	Wuxi Hi-Tech
	GMP manufacturing of Antibody Drug	District
	Conjugates (ADCs) and other bioconjugates,	
	including process development, pilot scale to	
	large-scale cGMP manufacturing of drug	
	substances and drug products	
WuXi Biologics	Over 16,000 sq. m. Biosafety Testing Center,	Wuzhong District
Suzhou Biosafety	carrying out cell line characterization and	
Testing Center	adventitious agent testing for the QC release of	
	cell banks, unprocessed bulk (UPB) lots, raw	
	materials handling, and viral clearance	

WuXi Biologics Suzhou MFG21/DP11	drug substance manufacturing facility (MFG21) and drug product fill & finish facility (DP11) including process development, clinical drug substance manufacturing, and liquid and lyophilization drug product fills	Suzhou Industrial Park
WuXi Biologics Hangzhou	35,000 sq. m. Biologics Integrated Innovation Center serving the development and GMP manufacturing of microbial-derived products and mRNA products, with a drug substance manufacturing facility (MFG14) and drug product fill & finish facility (DP8)	Hangzhou Economic & Technological Development Zone
WuXi Biologics Hangzhou MFG20/DP9/DP10	50,400 sq. m. manufacturing site including a drug substance manufacturing facility (MFG20) as well as drug product fill & finish facilities (DP9 and DP10)	Hangzhou Economic & Technological Development Zone
WuXi Biologics Chengdu	314,000 sq. m. site with Protein Science labs, initial bioreactor capacity of 48,000L for drug substance GMP manufacturing	Chengdu New Expansion Site
WuXi Biologics Hebei	82,160 sq. m. site providing commercial manufacturing services at 4,000L to 20,000L scale, drug substance manufacturing facility (MFG8)	Hebei Hi-Tech Industrial Zone
WuXi Biologics Singapore	End-to-end biologics research, development, and manufacturing solutions, 120,000L manufacturing capacity	Tuas Biomedical Park, Singapore
WuXi Biologics Ireland	"Factory of the Future" manufacturing facilities supported by the Irish Government and IDA Ireland	Dundalk, Ireland
WuXi Vaccines Ireland	Drug substance and drug product manufacture and quality control	Dundalk, Ireland
WuXi Biologics Germany (Leverkusen)	Over 13,000 sq. m. drug product fill & finish facility (DP7), liquid and lyophilization annual fill capacity of 10 million doses, supporting WuXi Biologics' "Global Dual Source" strategy	Leverkusen, Germany
WuXi Biologics Germany (Wuppertal)	30,000 sq. m. drug substance manufacturing facility (MFG19), supporting WuXi Biologics' "Global Dual Source" strategy	Wuppertal, Germany
WuXi Biologics Massachusetts	Over 189,500 sq. ft. drug substance manufacturing facility (MFG11) featuring single-use technology, dedicated to biologics clinical-and commercial-scale drug substance cGMP manufacturing with total bioreactor capacity of 36,000L	The Reactory Biomanufacturing Park, Worcester, MA

WuXi Biologics	Over 154,400 sq. ft. of laboratories and	New Jersey
New Jersey	manufacturing suites, services include biologics	Tristate Region
	CMC development and clinical-scale drug	
	substance and drug product cGMP manufacturing,	
	drug substance manufacturing facility (MFG18),	
	robotic drug product fill and cGMP manufacturing	
	facility (DP12) operations	
WuXi Biologics	More than 33,000 sq. ft. facility, biologics process	Discovery Labs
Pennsylvania	development and process characterization,	campus, King of
-	Biosafety Level 2 laboratories	Prussia, PA
ABI-LAB Boston	Antibody-based drug discovery through	ABI-LAB,
Research Service	hybridoma, high-throughput screening, in vitro	Natick, MA
Center	pharmacology, small scale protein production, and	
	cell line development for research	

The following is a full listing of WuXi AppTec's facilities around the world, sorted by continent and country:

Facility Name	Facility Purpose	Facility Address	Facility Phone Number
WuXi AppTec Headquarters	Small molecule drug discovery and research services	288 Fute Zhong Road Waigaoqiao Free Trade Zone, Pudong New Area, Shanghai, 200131, China	+86 (21) 5046-1111
WuXi Clinical	Clinical services, clinical operations, safety and pharmacovigilance and medical writing project management	8F&19F SOHO, Building A, No. 388, Madang Road, Huangpu District, Shanghai, 200020, China	+86 (21) 2315-8000
WuXi SMO	Clinical research and SMO services	803 SOHO, Building A, No. 388, Madang Road, Huangpu District, Shanghai, 200020, China	+86 (21) 5306-1011
WuXi STA (Shanghai)	CDMO services	9 Yuegong Road, Jinshan District, Shanghai, 201507, China	+86 (21) 6725-6015
WuXi ATU (Lingang, Shanghai)	Development, manufacturing, and testing services for viral	Building G4, Life Science Park, No.860 Xinyang	+86 (021) 3718-1888

	vectors and cell therapies	Road, Fengxian District, Shanghai, 201208, China	
WuXi STA (Changzhou)	CDMO services	589 North Yulong Road, Xinbei District, Changzhou, Jiangsu, 213127, China	+86 (519) 8128-7118
WuXi AppTec (Suzhou)	Drug Safety Evaluation (Toxicology, Pharmacology, DMPK), Oncology New Drug Research & Development, Medical Device Testing	1318 Wuzhong Avenue, Wuzhong District, Suzhou, Jiangsu, 215104, China	+86 (512) 6603-7138
WuXi AppTec (Nanjing)	DMPK full service (from early ADME screening to radiolabeled DMPK research)	Building 7, Accelerator Phase IV, Nanjing Biotech and Pharmaceutical Valley, # 122 Huakang Road, Jiangbei New Area, Nanjing, Jiangsu, 211899, China	+86 (25) 6698-6114
Milestone Pharma (Nanjing)	Pharmaceutical Quality Research and Testing Services	1F&6F, Building C, 3-1 Xinjinhu Road, Jiangbei New Area, Nanjing, Jiangsu, 210031, China	400-025-8660
WuXi AppTec (Nantong)	Small molecule drug discovery and research services	699 Huashi Nan Road, Qidong Economic Development Zone, Nantong, Jiangsu, 226299, China	+86 (513) 8339-3066
WuXi ATU	Cell therapy products, gene carrier research and development, production, and other related services business	Floor D7-5, No.1719 Huishan Avenue, Huishan Economic Development Zone, Wuxi, Jiangsu, 214174, China	+86 (510) 8858-3666
WuXi STA (Wuxi City)	CDMO services	8 Xinrui Road, Xin Wu District, Wuxi,	+86 (0510) 8522- 1390

		Jiangsu, 214028, China	
WuXi AppTec (Tianjin)	Small molecule drug discovery and research services	168 Nanhai Road Tianjin Economic- Technological Development Area (TEDA), Tianjin, 300457, China	+86 (22) 5998-7288
WuXi AppTec (Chengdu)	Small molecule and peptide conjugated drug R&D services	No.388 Haifa Road, Chengdu Cross- Strait Science & Technology Industrial Development Park, Wenjiang District, Chengdu, Sichuan, 611130, China	+86 (28) 6951-8888
WuXi AppTec (Wuhan)	Small molecule drug discovery and research services	No.68 Middle Jiulong Road, East Lake High-tech Development Zone, Wuhan, Hubei, 430075, China	+86 (27) 6539-0001
WuXi AppTec (Beijing)	Clinical / Regulatory	Room 801, Block C, Zhaotai International Center, No. 3 Chaowai West Street, Chaoyang District, Beijing, 100020, China	+86 (10) 85664201
WuXi Clinical (Shanghai)	Clinical services, clinical operations, safety and pharmacovigilance and medical writing project management	Room 0901, Riverside Business Complex Center, No.298 Yanjiang Middle Road, Guangzhou,510110, China	+86 020-83288810
WuXi AppTec (Korea)	Program management	(Sampyeong-dong, U space 1), B-dong 705-ho, 660, Daewangpangyo- ro, Bundang-gu, Seongnam-si, Gyeonggi-do, 13494, Korea	+82-31-724-2862

WuXi AppTec (Japan)	Program management	3F, KRP Bldg#4, 93 Chudoji Awatacho, Shimogyo-ku, Kyoto, 650-8815, Japan	+81-75-315-1044
WuXi AppTec (Singapore)	Small Molecule R&D and Manufacturing / Cell and Gene Therapy R&D and Manufacturing	Under Construction, TBD	Under Construction, TBD
WuXi AppTec Philadelphia Campus	Integrated Cell and Gene Therapy Manufacturing and Testing	4701 League Island Blvd Philadelphia, PA 19112, USA	+1 (215) 218-5500
WuXi AppTec Boston/Natick	Small Molecule Screening and Assay	22 Strathmore Road, Natick MA 01760, USA	+1 (857) 413-2788
WuXi AppTec LTD and RSD Cranbury	DMPK and Pre-clinical Services	6 Cedarbrook Drive, Cranbury, NJ 08512, USA	+1 (609) 606-6666
WuXi AppTec XenoBiotic Laboratories Plainsboro	Non-GLP DMPK Operations	107 Morgan Lane, Plainsboro NJ 08536, USA	+1 (609) 799-2295
WuXi AppTec Atlanta	Medical Device & Biologics Testing	1265 Kennestone Circle Marietta, GA 30066, USA	+1 (770) 514-0262
WuXi AppTec St. Paul	Biocompatibility Testing and Chemical Characterization Center of Excellence	2540 Executive Drive St. Paul, MN 55120, USA	+1 (651) 675-2000
WuXi AppTec WuXi Clinical Texas	Clinical Development Services	5301 Southwest Parkway, Suite 100 Austin, TX 78735, USA	+1 (512) 343-1092
Pharmapace San Diego	Biometrics Services	10509 Vista Sorrento Pkwy, Suite 303 San Diego, CA 92121, USA	+1 (858) 263-0510
HDB San Diego	Services for Drug Discovery, Research and Development	6122 Nancy Ridge Drive, San Diego, CA 92121, USA	+1 (858) 888-7888

WuXi STA San Diego	Small Molecule R&D and Manufacturing	6114 Nancy Ridge Drive, San Diego,	+1 (609) 609-6504
		CA 92121, USA	
WuXi AppTec San	Synthesis, Compound	3912 Trust Way,	N/A
Francisco	Management/Logistics	Hayward, CA	
	Center	94545, USA	
WuXi STA	Pharmaceutical Drug	1091 Industrial	N/A
Middletown	Product and Drug	Drive PO Box 930	
	Substance	Middletown DE	
	manufacturing	19709, USA	
CRELUX GmbH	Drug Discovery	Am Klopferspitz	+49 (0) 89700760200
	Services	19a 82152	
		Martinsried	
		Germany	
OXGENE	Cell and Gene Therapy	Medawar Centre,	+44 (0) 1865415107
	R&D and	Robert Robinson	
	Manufacturing	Avenue, Oxford,	
		OX4 4HG, United	
		Kingdom	
WuXi AppTec	Oral Solid Dosage Drug	Rue du Pré-Jorat	+41 32 864 71 00
Couvet	Product CMO Services	14, 2108 Couvet,	
		Switzerland	
WuXi AppTec Tel	Israel Office	14 Shenkar	+972-548085692
Aviv		Street,4th Floor	
		Herzliya 4672514,	
		Israel	